

Sequence Listing

<110> Desnoyers,Luc
Eaton,Dan L.
Goddard,Audrey
Godowski,Paul J.
Gurney,Austin L.
Pan,James
Stewart,Timothy A.
Watanabe,Colin K.
Wood,William I.
Zhang,Zemin

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 Glu Lys Gly Tyr Pro Gly Ile Pro Pro Glu Leu Gln Ile Ala Phe
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Thr Phe Ser Met Met Lys His Glu Asp Val Glu Glu Val Tyr Val
170 175 180

Tyr Leu Met His Asn Gly Asn Thr Val Phe Ser Met Tyr Ser Tyr
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His Cys Val Thr Thr Ala Thr Arg Val Leu Ser Asn Thr Glu Asp
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 <213> Homo Sapien

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 35 40 45
 Arg Gln Val Gly Val Lys Gly Thr Asp Arg Leu Val Asn Val Phe

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Ser	Thr	Ala	Pro	Pro 95	Met	Cys	Leu	Gln	Asp 100	Val	Glu	Ser	Met	Asn 105	
Ser	Ser	Arg	Phe	Val 110	Leu	Asn	Gly	Lys	Gln 115	Gln	Ile	Phe	Ser	Val 120	
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Pro	Ala	Gly	Ser	Gly 140	Arg	Pro	Val	Met	Val 145	Trp	Val	His	Gly	Gly 150	
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Glu	Asn	Ile	Ala	Pro 215	Phe	Gly	Gly	Asp	Leu 220	Asn	Cys	Val	Thr	Val 225	
Phe	Gly	Gly	Ser	Ala 230	Gly	Gly	Ser	Ile	Ile 235	Ser	Gly	Leu	Val	Leu 240	
Ser	Pro	Val	Ala	Ala 245	Gly	Leu	Phe	His	Arg 250	Ala	Ile	Thr	Gln	Ser 255	
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Val	Asp	Gly	Thr	Val 320	Phe	Pro	Lys	Ser	Pro 325	Lys	Glu	Leu	Leu	Lys 330	
Glu	Lys	Pro	Phe	His 335	Ser	Val	Pro	Phe	Leu 340	Met	Gly	Val	Asn	Asn 345	

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 Pro Val Leu Thr Ser Leu Asp Val Pro Pro Glu Met Met Pro Thr
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 Val Ile Asp Glu Tyr Leu Gly Ser Asn Ser Asp Ala Gln Ala Lys
 395 400 405
 Cys Gln Ala Phe Gln Glu Phe Met Gly Asp Val Phe Ile Asn Val
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 Pro Thr Val Ser Phe Ser Arg Tyr Leu Arg Asp Ser Gly Ser Pro
 425 430 435
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<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 24

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<210> 25
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<400> 25
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<220>
<223> Synthetic oligonucleotide probe

<400> 26
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<212> DNA
<213> Artificial Sequence

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<210> 28
<211> 1342
<212> DNA
<213> Homo Sapien

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<210> 29

<211> 209

<212> PRT

<213> Homo Sapien

<400> 29

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Ser	Leu	Glu	Lys	Tyr	Lys	Gly	Lys	Val	Ser	Leu	Val	Val	Asn	Val
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Phe	Pro	Cys	Asn	Gln	Phe	Gly	Glu	Ser	Glu	Pro	Arg	Pro	Ser	Lys
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Glu	Val	Glu	Ser	Phe	Ala	Arg	Lys	Asn	Tyr	Gly	Val	Thr	Phe	Pro
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Ile	Phe	His	Lys	Ile	Lys	Ile	Leu	Gly	Ser	Glu	Gly	Glu	Pro	Ala
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 <223> Synthetic oligonucleotide probe

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<210> 31
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 31
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<210> 32
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 32
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<210> 33

<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

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<210> 34
<211> 3721
<212> DNA
<213> Homo Sapien

<400> 34
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 <211> 888
 <212> PRT
 <213> Homo Sapien

<400> 35
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Ala Arg Arg Lys	Asp Lys Glu Ala Ile	Leu Ala His Gly Ala	Gly
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Glu Ala Val Leu	Ser Val Ser Arg Leu	Gly Glu Arg Arg Ala	Gln
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Gly Pro Gly Gly	Arg Gly Gly Gly Gly	Gly Gly Gly Ala Gly	Val
665		670	675
Pro Pro Glu Ala	Leu Leu Ala Pro Leu	Met Gln Asn Gly Trp	Ala
680		685	690
Lys Ala Thr Leu	Leu Gln Gly Gly Pro	His Asp Leu Asp Ser	Gly
695		700	705
Leu Leu Pro Thr	Pro Glu Gln Thr Pro	Leu Pro Gln Lys Arg	Leu
710		715	720
Pro Thr Pro His	Pro His Pro His Ala	Leu Gly Pro Arg Ala	Trp
725		730	735
Asp His Gly His	Pro Leu Leu Pro Ala	Ser Ala Ser Ser Ser	Leu
740		745	750
Leu Leu Leu Ala	Pro Ala Arg Ala Pro	Glu Gln Pro Pro Ala	Pro
755		760	765
Gly Glu Pro Thr	Pro Asp Gly Arg Leu	Tyr Ala Ala Arg Pro	Gly
770		775	780
Arg Ala Ser His	Gly Asp Phe Pro Leu	Thr Pro His Ala Ser	Pro
785		790	795
Asp Arg Arg Arg	Val Val Ser Ala Pro	Thr Gly Pro Leu Asp	Pro
800		805	810
Ala Ser Ala Ala	Asp Gly Leu Pro Arg	Pro Trp Ser Pro Pro	Pro
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Thr Gly Ser Leu	Arg Arg Pro Leu Gly	Pro His Ala Pro Pro	Ala
830		835	840
Ala Thr Leu Arg	Arg Thr His Thr Phe	Asn Ser Gly Glu Ala	Arg
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Pro Gly Asp Arg	His Arg Gly Cys His	Ala Arg Pro Gly Thr	Asp
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<220>
<223> Synthetic oligonucleotide probe

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<210> 37
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<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 37
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<210> 38
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
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<210> 39
<211> 2014
<212> DNA
<213> Homo Sapien

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taaaagcaga cgtcgtcctt cccgcccgtt atttctatat tcaggcagtg 450

gatacatcag	ggaataaatt	cacatcttct	ccaggcgaaa	aggctctcca	500
ggtgaaagtc	tcagcaccag	aggagcaatt	cactagagtt	ggagtccagg	550
ttttagaccg	aaaagatggg	tccttcatag	taagatacag	aatgtatgca	600
agctacaaaa	atctgaaggt	ggaaattaaa	ttccaagggc	aacatgtggc	650
caaatcccca	tatatTTTTaa	aagggccggt	ttaccatgag	aactgtgact	700
gtcctctgca	agatagtgca	gcctggctac	gggagatgaa	ctgccctgaa	750
accattgctc	agattcagag	agatctggca	catttccttg	ctgtggatcc	800
agaaaagatt	gcagtagaaa	tcccaaaaag	atttggacag	aggcagagcc	850
tatgtcacta	caccttaaag	gataacaagg	tttatatcaa	gactcatggg	900
gaacatgtag	gttttagaat	tttcatggat	gccatactac	tttctttgac	950
tagaaaagg	tg	tg	tg	tg	1000
ggcctttgga	aaaaaagaaa	tccaattcaa	acatccatcc	gatcttttcc	1050
tggtgtggct	ccacagattc	caaggatata	gtgatgccta	cgtacgattt	1100
gactgattct	gttctggaaa	ccatggggcc	ggtaagtctg	gatatgatgt	1150
ccgtgcaagc	taacacgggt	cctccctggg	aaagcaaaaa	ttccactgcc	1200
gtctggagag	ggcgagacag	ccgcaaagag	agaactcgagc	tggttaaact	1250
cagtagaaaa	caccacagaac	tcatagacgc	tgctttcacc	aactttttct	1300
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agcaggattc	catctactat	gaacattttt	acaatgagct	gcagccctgg	1500
aaacactaca	ttccagttaa	gagcaacctg	agcgatctgc	tagaaaaact	1550
taaatggg	cg	cg	cg	cg	1600
gacaagaatt	tgcaagaaat	aatctcatgg	gcgatgacat	attctgttat	1650
tatttcaaac	ttttccagga	atatgccaat	ttacaagtga	gtgagcccca	1700
aatccgagag	ggcatgaaaa	gggtagaacc	acagactgag	gacgacctct	1750
tcccttgta	ct	ct	ct	ct	1800
aaataacttc	tattagaata	atggtgctct	gaagactctt	cttaactaaa	1850
aagaagaatt	tttttaagta	ttaattccat	ggacaatatata	aaatctgtgt	1900

gattgtttgc agtatgaaga cacatttcta cttatgcagt attctcatga 1950
 ctgtacttta aagtacattt ttagaatttt ataataaaac cacctttatt 2000
 ttaaaggaaa aaaa 2014

<210> 40
 <211> 502
 <212> PRT
 <213> Homo Sapien

<400> 40
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 20 25 30
 Lys Ser Glu Ile Trp Gly Pro Gly Leu Lys Ala Asp Val Val Leu
 35 40 45
 Pro Ala Arg Tyr Phe Tyr Ile Gln Ala Val Asp Thr Ser Gly Asn
 50 55 60
 Lys Phe Thr Ser Ser Pro Gly Glu Lys Val Phe Gln Val Lys Val
 65 70 75
 Ser Ala Pro Glu Glu Gln Phe Thr Arg Val Gly Val Gln Val Leu
 80 85 90
 Asp Arg Lys Asp Gly Ser Phe Ile Val Arg Tyr Arg Met Tyr Ala
 95 100 105
 Ser Tyr Lys Asn Leu Lys Val Glu Ile Lys Phe Gln Gly Gln His
 110 115 120
 Val Ala Lys Ser Pro Tyr Ile Leu Lys Gly Pro Val Tyr His Glu
 125 130 135
 Asn Cys Asp Cys Pro Leu Gln Asp Ser Ala Ala Trp Leu Arg Glu
 140 145 150
 Met Asn Cys Pro Glu Thr Ile Ala Gln Ile Gln Arg Asp Leu Ala
 155 160 165
 His Phe Pro Ala Val Asp Pro Glu Lys Ile Ala Val Glu Ile Pro
 170 175 180
 Lys Arg Phe Gly Gln Arg Gln Ser Leu Cys His Tyr Thr Leu Lys
 185 190 195
 Asp Asn Lys Val Tyr Ile Lys Thr His Gly Glu His Val Gly Phe
 200 205 210
 Arg Ile Phe Met Asp Ala Ile Leu Leu Ser Leu Thr Arg Lys Val
 215 220 225
 Lys Met Pro Asp Val Glu Leu Phe Val Asn Leu Gly Asp Trp Pro

				230					235					240
Leu	Glu	Lys	Lys	Lys 245	Ser	Asn	Ser	Asn	Ile 250	His	Pro	Ile	Phe	Ser 255
Trp	Cys	Gly	Ser	Thr 260	Asp	Ser	Lys	Asp	Ile 265	Val	Met	Pro	Thr	Tyr 270
Asp	Leu	Thr	Asp	Ser 275	Val	Leu	Glu	Thr	Met 280	Gly	Arg	Val	Ser	Leu 285
Asp	Met	Met	Ser	Val 290	Gln	Ala	Asn	Thr	Gly 295	Pro	Pro	Trp	Glu	Ser 300
Lys	Asn	Ser	Thr	Ala 305	Val	Trp	Arg	Gly	Arg 310	Asp	Ser	Arg	Lys	Glu 315
Arg	Leu	Glu	Leu	Val 320	Lys	Leu	Ser	Arg	Lys 325	His	Pro	Glu	Leu	Ile 330
Asp	Ala	Ala	Phe	Thr 335	Asn	Phe	Phe	Phe	Phe 340	Lys	His	Asp	Glu	Asn 345
Leu	Tyr	Gly	Pro	Ile 350	Val	Lys	His	Ile	Ser 355	Phe	Phe	Asp	Phe	Phe 360
Lys	His	Lys	Tyr	Gln 365	Ile	Asn	Ile	Asp	Gly 370	Thr	Val	Ala	Ala	Tyr 375
Arg	Leu	Pro	Tyr	Leu 380	Leu	Val	Gly	Asp	Ser 385	Val	Val	Leu	Lys	Gln 390
Asp	Ser	Ile	Tyr	Tyr 395	Glu	His	Phe	Tyr	Asn 400	Glu	Leu	Gln	Pro	Trp 405
Lys	His	Tyr	Ile	Pro 410	Val	Lys	Ser	Asn	Leu 415	Ser	Asp	Leu	Leu	Glu 420
Lys	Leu	Lys	Trp	Ala 425	Lys	Asp	His	Asp	Glu 430	Glu	Ala	Lys	Lys	Ile 435
Ala	Lys	Ala	Gly	Gln 440	Glu	Phe	Ala	Arg	Asn 445	Asn	Leu	Met	Gly	Asp 450
Asp	Ile	Phe	Cys	Tyr 455	Tyr	Phe	Lys	Leu	Phe 460	Gln	Glu	Tyr	Ala	Asn 465
Leu	Gln	Val	Ser	Glu 470	Pro	Gln	Ile	Arg	Glu 475	Gly	Met	Lys	Arg	Val 480
Glu	Pro	Gln	Thr	Glu 485	Asp	Asp	Leu	Phe	Pro 490	Cys	Thr	Cys	His	Arg 495
Lys	Lys	Thr	Lys	Asp 500	Glu	Leu								

34

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 41
gaaggtggaa attaaattcc aagggc 26

<210> 42
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 42
cgataagctg ctacagtgcc atcg 24

<210> 43
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 43
gtgactgtcc tctgcaagat agtgcagcct ggctacggga 40

<210> 44
<211> 2395
<212> DNA
<213> Homo Sapien

<400> 44
cctggagccg gaagcgcggc tgcagcaggg cgaggctcca ggtggggtcg 50
gttccgcata cagcctagcg tgtccacgat gcggctgggc tccgggactt 100
tcgctacctg ttgcgtagcg atcgaggtgc tagggatcgc ggtcttcctt 150
cggggattct tcccggctcc cgttcgttcc tctgccagag cggaacacgg 200
agcggagccc ccagcgcccc aaccctcggc tggagccagt tctaactgga 250
ccacgctgcc accacctctc ttcagtaaag ttgttattgt tctgatagat 300
gccttgagag atgattttgt gtttggggtca aagggtgtga aatttatgcc 350
ctacacaact taccttgtgg aaaaaggagc atctcacagt tttgtggctg 400
aagcaaagcc acctacagtt actatgcctc gaatcaaggc attgatgacg 450
gggagccttc ctggctttgt cgacgtcatc aggaacctca attctcctgc 500
actgctggaa gacagtgtga taagacaagc aaaagcagct ggaaaaagaa 550

tcttagtcct tggcctcgga caccttcatt cgtagctgg ggagtgggtg 2050
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 aacctgcac agccctcatc cctcttggc ttgagccgtc agaggccctg 2200
 tgctgagtgt ctgaccgaga cactcacagc tttgtcatca gggcacaggc 2250
 ttctcggag ccaggatgat ctgtgccacg cttgcacctc gggcccatct 2300
 gggctcatgc tctctctcct gctattgaat tagtacctag ctgcacacag 2350
 tatgtagtta ccaaaagaat aaacggcaat aattgagaaa aaaaa 2395

<210> 45

<211> 310

<212> PRT

<213> Homo Sapien

<400> 45

Met	Arg	Leu	Gly	Ser	Gly	Thr	Phe	Ala	Thr	Cys	Cys	Val	Ala	Ile	1	5	10	15
Glu	Val	Leu	Gly	Ile	Ala	Val	Phe	Leu	Arg	Gly	Phe	Phe	Pro	Ala	20	25	30	
Pro	Val	Arg	Ser	Ser	Ala	Arg	Ala	Glu	His	Gly	Ala	Glu	Pro	Pro	35	40	45	
Ala	Pro	Glu	Pro	Ser	Ala	Gly	Ala	Ser	Ser	Asn	Trp	Thr	Thr	Leu	50	55	60	
Pro	Pro	Pro	Leu	Phe	Ser	Lys	Val	Val	Ile	Val	Leu	Ile	Asp	Ala	65	70	75	
Leu	Arg	Asp	Asp	Phe	Val	Phe	Gly	Ser	Lys	Gly	Val	Lys	Phe	Met	80	85	90	
Pro	Tyr	Thr	Thr	Tyr	Leu	Val	Glu	Lys	Gly	Ala	Ser	His	Ser	Phe	95	100	105	
Val	Ala	Glu	Ala	Lys	Pro	Pro	Thr	Val	Thr	Met	Pro	Arg	Ile	Lys	110	115	120	
Ala	Leu	Met	Thr	Gly	Ser	Leu	Pro	Gly	Phe	Val	Asp	Val	Ile	Arg	125	130	135	
Asn	Leu	Asn	Ser	Pro	Ala	Leu	Leu	Glu	Asp	Ser	Val	Ile	Arg	Gln	140	145	150	
Ala	Lys	Ala	Ala	Gly	Lys	Arg	Ile	Val	Phe	Tyr	Gly	Asp	Glu	Thr	155	160	165	
Trp	Val	Lys	Leu	Phe	Pro	Lys	His	Phe	Val	Glu	Tyr	Asp	Gly	Thr	170	175	180	

Thr	Ser	Phe	Phe	Val	Ser	Asp	Tyr	Thr	Glu	Val	Asp	Asn	Asn	Val
				185					190					195
Thr	Arg	His	Leu	Asp	Lys	Val	Leu	Lys	Arg	Gly	Asp	Trp	Asp	Ile
				200					205					210
Leu	Ile	Leu	His	Tyr	Leu	Gly	Leu	Asp	His	Ile	Gly	His	Ile	Ser
				215					220					225
Gly	Pro	Asn	Ser	Pro	Leu	Ile	Gly	Gln	Lys	Leu	Ser	Glu	Met	Asp
				230					235					240
Ser	Val	Leu	Met	Lys	Ile	His	Thr	Ser	Leu	Gln	Ser	Lys	Glu	Arg
				245					250					255
Glu	Thr	Pro	Leu	Pro	Asn	Leu	Leu	Val	Leu	Cys	Gly	Asp	His	Gly
				260					265					270
Met	Ser	Glu	Thr	Gly	Ser	His	Gly	Ala	Ser	Ser	Thr	Glu	Glu	Val
				275					280					285
Asn	Thr	Pro	Leu	Ile	Leu	Ile	Ser	Ser	Ala	Phe	Glu	Arg	Lys	Pro
				290					295					300
Gly	Asp	Ile	Arg	His	Pro	Lys	His	Val	Gln					
				305					310					

<210> 46
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 46
 cgggactttc gctacctgtt gc 22

<210> 47
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 47
 catcatattc cacaaaatgc tttggg 26

<210> 48
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 48

ccttcgggga ttcttcccgg ctcccgttcg ttctcttg 38

<210> 49

<211> 918

<212> DNA

<213> Homo Sapien

<400> 49

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agcaatggca atgggggtcc ccagagtcac tctgctctgc ctctttgggg 100
ctgcgctctg cctgacaggg tcccaagccc tgcagtgtta cagctttgag 150
cacacctact ttggccccctt tgacctcagg gccatgaagc tgcccagcat 200
ctctgttctt catgagtgtt ttgaggctat cctgtctctg gacaccgggt 250
atcgcgcgcc ggtgacctg gtgcggaagg gctgctggac cgggcctcct 300
gcgggccaga cgcaatcgaa cccggacgag ctgccgccag actactcggg 350
ggtgcgcgcc tgcacaactg acaaatgcaa cgcccacctc atgactcatg 400
acgcctctcc caacctgagc caagcaccg acccgccgac gctcagcggc 450
gccgagtgtt acgcctgtat cgggggtccac caggatgact gcgctatcgg 500
cagggtccga cgagtccagt gtcaccagga ccagaccgcc tgcttccagg 550
gcagtggcag aatgacagtt ggcaatttct cagtccctgt gtacatcaga 600
acctgccacc ggccctcctg caccaccgag ggcaccacca gcccctggac 650
agccatcgac ctccaggggt cctgctgtga ggggtacctc tgcaacagga 700
aatccatgac ccagcccttc accagtgtt cagccaccac ccctccccga 750
gcactacagg tcttgccctt gctcctccca gtcctcctgc tgggtggggct 800
ctcagcatag accgcccctc caggatgttg gggacagggc tcacacacct 850
cattcttgct gcttcagccc ctatcacata gctcactgga aaatgatgtt 900
aaagtaagaa ttgcaaaa 918

<210> 50

<211> 251

<212> PRT

<213> Homo Sapien

<400> 50

Met	Ala	Met	Gly	Val	Pro	Arg	Val	Ile	Leu	Leu	Cys	Leu	Phe	Gly
1				5				10						15
Ala	Ala	Leu	Cys	Leu	Thr	Gly	Ser	Gln	Ala	Leu	Gln	Cys	Tyr	Ser
				20				25						30

ccttagttta tatacttatt attttatctt taagcatgct acttttactt 3150
 ggccaatatt ttcttatggt aacttttgct gatgtataaa acagactatg 3200
 ccttataatt gaaataaaaat tataatctgc ctgaaaatga ataaaaataa 3250
 aacattttga aatgtgaaaa aaaaaaaaaa aaaaaaaaaa 3288

<210> 52
 <211> 800
 <212> PRT
 <213> Homo Sapien

<400> 52
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 20 25 30
 Gly Arg Tyr Ser Val Thr Glu Glu Thr Glu Lys Gly Ser Phe Val
 35 40 45
 Val Asn Leu Ala Lys Asp Leu Gly Leu Ala Glu Gly Glu Leu Ala
 50 55 60
 Ala Arg Gly Thr Arg Val Val Ser Asp Asp Asn Lys Gln Tyr Leu
 65 70 75
 Leu Leu Asp Ser His Thr Gly Asn Leu Leu Thr Asn Glu Lys Leu
 80 85 90
 Asp Arg Glu Lys Leu Cys Gly Pro Lys Glu Pro Cys Met Leu Tyr
 95 100 105
 Phe Gln Ile Leu Met Asp Asp Pro Phe Gln Ile Tyr Arg Ala Glu
 110 115 120
 Leu Arg Val Arg Asp Ile Asn Asp His Ala Pro Val Phe Gln Asp
 125 130 135
 Lys Glu Thr Val Leu Lys Ile Ser Glu Asn Thr Ala Glu Gly Thr
 140 145 150
 Ala Phe Arg Leu Glu Arg Ala Gln Asp Pro Asp Gly Gly Leu Asn
 155 160 165
 Gly Ile Gln Asn Tyr Thr Ile Ser Pro Asn Ser Phe Phe His Ile
 170 175 180
 Asn Ile Ser Gly Gly Asp Glu Gly Met Ile Tyr Pro Glu Leu Val
 185 190 195
 Leu Asp Lys Ala Leu Asp Arg Glu Glu Gln Gly Glu Leu Ser Leu
 200 205 210
 Thr Leu Thr Ala Leu Asp Gly Gly Ser Pro Ser Arg Ser Gly Thr
 215 220 225

Ser Thr Val Arg	Ile Val Val Leu Asp	Val Asn Asp Asn Ala	Pro
230	235		240
Gln Phe Ala Gln	Ala Leu Tyr Glu Thr	Gln Ala Pro Glu Asn	Ser
245	250		255
Pro Ile Gly Phe	Leu Ile Val Lys Val	Trp Ala Glu Asp Val	Asp
260	265		270
Ser Gly Val Asn	Ala Glu Val Ser Tyr	Ser Phe Phe Asp Ala	Ser
275	280		285
Glu Asn Ile Arg	Thr Thr Phe Gln Ile	Asn Pro Phe Ser Gly	Glu
290	295		300
Ile Phe Leu Arg	Glu Leu Leu Asp Tyr	Glu Leu Val Asn Ser	Tyr
305	310		315
Lys Ile Asn Ile	Gln Ala Met Asp Gly	Gly Gly Leu Ser Ala	Arg
320	325		330
Cys Arg Val Leu	Val Glu Val Leu Asp	Thr Asn Asp Asn Pro	Pro
335	340		345
Glu Leu Ile Val	Ser Ser Phe Ser Asn	Ser Val Ala Glu Asn	Ser
350	355		360
Pro Glu Thr Pro	Leu Ala Val Phe Lys	Ile Asn Asp Arg Asp	Ser
365	370		375
Gly Glu Asn Gly	Lys Met Val Cys Tyr	Ile Gln Glu Asn Leu	Pro
380	385		390
Phe Leu Leu Lys	Pro Ser Val Glu Asn	Phe Tyr Ile Leu Ile	Thr
395	400		405
Glu Gly Ala Leu	Asp Arg Glu Ile Arg	Ala Glu Tyr Asn Ile	Thr
410	415		420
Ile Thr Val Thr	Asp Leu Gly Thr Pro	Arg Leu Lys Thr Glu	His
425	430		435
Asn Ile Thr Val	Leu Val Ser Asp Val	Asn Asp Asn Ala Pro	Ala
440	445		450
Phe Thr Gln Thr	Ser Tyr Thr Leu Phe	Val Arg Glu Asn Asn	Ser
455	460		465
Pro Ala Leu His	Ile Gly Ser Val Ser	Ala Thr Asp Arg Asp	Ser
470	475		480
Gly Thr Asn Ala	Gln Val Thr Tyr Ser	Leu Leu Pro Pro Gln	Asp
485	490		495
Pro His Leu Pro	Leu Ala Ser Leu Val	Ser Ile Asn Ala Asp	Asn
500	505		510
Gly His Leu Phe	Ala Leu Arg Ser Leu	Asp Tyr Glu Ala Leu	Gln

1003634-1003634

	515		520		525
Ala Phe Glu Phe Arg Val Gly Ala Thr	530	Asp Arg Gly Ser Pro	535	Ala	540
Leu Ser Arg Glu Ala Leu Val Arg Val	545	Leu Val Leu Asp Ala Asn	550		555
Asp Asn Ser Pro Phe Val Leu Tyr Pro	560	Leu Gln Asn Gly Ser	565	Ala	570
Pro Cys Thr Glu Leu Val Pro Arg Ala	575	Ala Glu Pro Gly Tyr	580	Leu	585
Val Thr Lys Val Val Ala Val Asp Gly	590	Asp Ser Gly Gln Asn	595	Ala	600
Trp Leu Ser Tyr Gln Leu Leu Lys Ala	605	Thr Glu Pro Gly Leu	610	Phe	615
Gly Val Trp Ala His Asn Gly Glu Val	620	Arg Thr Ala Arg Leu	625	Leu	630
Ser Glu Arg Asp Ala Ala Lys His Arg	635	Leu Val Val Leu Val	640	Lys	645
Asp Asn Gly Glu Pro Pro Arg Ser Ala	650	Thr Ala Thr Leu His	655	Leu	660
Leu Leu Val Asp Gly Phe Ser Gln Pro	665	Tyr Leu Pro Leu Pro	670	Glu	675
Ala Ala Pro Ala Gln Ala Gln Ala Glu	680	Ala Asp Leu Leu Thr	685	Val	690
Tyr Leu Val Val Ala Leu Ala Ser Val	695	Ser Ser Leu Phe Leu	700	Leu	705
Ser Val Leu Leu Phe Val Ala Val Arg	710	Leu Cys Arg Arg Ser	715	Arg	720
Ala Ala Ser Val Gly Arg Cys Ser Val	725	Pro Glu Gly Pro Phe	730	Pro	735
Gly His Leu Val Asp Val Arg Gly Ala	740	Glu Thr Leu Ser Gln	745	Ser	750
Tyr Gln Tyr Glu Val Cys Leu Thr Gly	755	Gly Pro Gly Thr Ser	760	Glu	765
Phe Lys Phe Leu Lys Pro Val Ile Ser	770	Asp Ile Gln Ala Gln	775	Gly	780
Pro Gly Arg Lys Gly Glu Glu Asn Ser	785	Thr Phe Arg Asn Ser	790	Phe	795
Gly Phe Asn Ile Gln	800				

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 53
ctggggagtg tccttggcag gttc 24

<210> 54
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 54
cagcatacag ggctcttttag ggcacac 27

<210> 55
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 55
cggtgactga ggaaacagag aaaggatcct ttgtggtcaa tctggc 46

<210> 56
<211> 2242
<212> DNA
<213> Homo Sapien

<220>
<221> unsure
<222> 2181
<223> unknown base

<400> 56
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tataccagcc tcgtcttctt tccggggggac aacgtgggtc agggcacaga 100
gagatattta atgtcacctt cttgggggctt tcatgggact ccctctgcca 150
catttttttg aggttgggaa agttgctaga ggcttcagaa ctccagccta 200
atggatccca aactcgggag aatggctgctg tccctgctgg ctgtgctgct 250
gctgctgctg gagcgcgga tgttctcttc accctccccg cccccggcgc 300
tgttagagaa agtcttccag tacattgacc tccatcagga tgaatttgtg 350

cagacgctga aggagtgggt ggccatcgag agcgactctg tccagcctgt 400
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 aaatgtcttg ggatatctgg atcagtaata aaatatttca aaggcacaga 1900
 tgttggaat ggtttaaggt cccccactgc acaccttcct caagtcatag 1950
 ctgcttgacag caacttgatt tcccccaagtc ctgtgcaata gccccaggat 2000
 tggattcctt ccaacctttt agcatatctc caaccttgca atttgattgg 2050
 cataatcact ccggtttgct ttctaggtcc tcaagtgtc gtgacacata 2100
 atcattccat ccaatgatcg cctttgcttt accactcttt ccttttatct 2150
 tattaataaa aatgttggtc tccaccactg nctcccaaaa aaaaaaaaaa 2200
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 2242

<210> 57
 <211> 507
 <212> PRT
 <213> Homo Sapien

<400> 57
 Met Asp Pro Lys Leu Gly Arg Met Ala Ala Ser Leu Leu Ala Val
 1 5 10 15
 Leu Leu Leu Leu Leu Glu Arg Gly Met Phe Ser Ser Pro Ser Pro
 20 25 30
 Pro Pro Ala Leu Leu Glu Lys Val Phe Gln Tyr Ile Asp Leu His
 35 40 45
 Gln Asp Glu Phe Val Gln Thr Leu Lys Glu Trp Val Ala Ile Glu
 50 55 60
 Ser Asp Ser Val Gln Pro Val Pro Arg Phe Arg Gln Glu Leu Phe
 65 70 75
 Arg Met Met Ala Val Ala Ala Asp Thr Leu Gln Arg Leu Gly Ala
 80 85 90
 Arg Val Ala Ser Val Asp Met Gly Pro Gln Gln Leu Pro Asp Gly
 95 100 105
 Gln Ser Leu Pro Ile Pro Pro Val Ile Leu Ala Glu Leu Gly Ser
 110 115 120
 Asp Pro Thr Lys Gly Thr Val Cys Phe Tyr Gly His Leu Asp Val
 125 130 135
 Gln Pro Ala Asp Arg Gly Asp Gly Trp Leu Thr Asp Pro Tyr Val
 140 145 150
 Leu Thr Glu Val Asp Gly Lys Leu Tyr Gly Arg Gly Ala Thr Asp
 155 160 165
 Asn Lys Gly Pro Val Leu Ala Trp Ile Asn Ala Val Ser Ala Phe

	170		175		180
Arg Ala Leu Glu Gln Asp Leu Pro Val	Asn Ile Lys Phe Ile Ile				
185	190				195
Glu Gly Met Glu Glu Ala Gly Ser Val	Ala Leu Glu Glu Leu Val				
200	205				210
Glu Lys Glu Lys Asp Arg Phe Phe Ser	Gly Val Asp Tyr Ile Val				
215	220				225
Ile Ser Asp Asn Leu Trp Ile Ser Gln	Arg Lys Pro Ala Ile Thr				
230	235				240
Tyr Gly Thr Arg Gly Asn Ser Tyr Phe	Met Val Glu Val Lys Cys				
245	250				255
Arg Asp Gln Asp Phe His Ser Gly Thr	Phe Gly Gly Ile Leu His				
260	265				270
Glu Pro Met Ala Asp Leu Val Ala Leu	Leu Gly Ser Leu Val Asp				
275	280				285
Ser Ser Gly His Ile Leu Val Pro Gly	Ile Tyr Asp Glu Val Val				
290	295				300
Pro Leu Thr Glu Glu Glu Ile Asn Thr	Tyr Lys Ala Ile His Leu				
305	310				315
Asp Leu Glu Glu Tyr Arg Asn Ser Ser	Arg Val Glu Lys Phe Leu				
320	325				330
Phe Asp Thr Lys Glu Glu Ile Leu Met	His Leu Trp Arg Tyr Pro				
335	340				345
Ser Leu Ser Ile His Gly Ile Glu Gly	Ala Phe Asp Glu Pro Gly				
350	355				360
Thr Lys Thr Val Ile Pro Gly Arg Val	Ile Gly Lys Phe Ser Ile				
365	370				375
Arg Leu Val Pro His Met Asn Val Ser	Ala Val Glu Lys Gln Val				
380	385				390
Thr Arg His Leu Glu Asp Val Phe Ser	Lys Arg Asn Ser Ser Asn				
395	400				405
Lys Met Val Val Ser Met Thr Leu Gly	Leu His Pro Trp Ile Ala				
410	415				420
Asn Ile Asp Asp Thr Gln Tyr Leu Ala	Ala Lys Arg Ala Ile Arg				
425	430				435
Thr Val Phe Gly Thr Glu Pro Asp Met	Ile Arg Asp Gly Ser Thr				
440	445				450
Ile Pro Ile Ala Lys Met Phe Gln Glu	Ile Val His Lys Ser Val				
455	460				465

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<400> 58
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acactacctt cccgaagttg aaggcaagcg gtgattgttt gtagacggcg 100
ctttgtcatg ggacctgtgc ggttggaat attgcttttc ctttttttg 150
ccgtgcacga ggcttgggct ggatgttga aggaggagga cgatgacaca 200
gaacgcttgc ccagcaaatg cgaagtgtgt aagctgctga gcacagagct 250
acaggcgga ctgagtcgca ccgtcgatc tcgagagggtg ctggagctgg 300
ggcagggtgct ggatacaggc aagaggaaga gacacgtgcc ttacagcgtt 350
tcagagacaa ggctggaaga ggccttagag aatttatgtg agcggatcct 400
ggactatagt gttcacgctg agcgcaaggg ctactgaga tatgccaaagg 450
gtcagagtca gaccatggca aactgaaag gcctagtgc gaagggggtg 500
aaggtggatc tggggatccc tctggagctt tgggatgagc ccagcgtgga 550
ggtcacatac ctcaagaagc agtgtgagac catgttgag gagtttgaag 600
acattgtggg agactggtac ttccaccatc aggagcagcc cctacaaaat 650
tttctctgtg aaggtcatgt gctcccagct gctgaaactg catgtctaca 700
ggaaacttgg actggaagg agatcacaga tggggaagag aaaacagaag 750
gggaggaaga gcaggaggag gaggaggaag aggaggaaga ggaaggggga 800
gacaagatga ccaagacagg aagccacccc aaacttgacc gagaagatct 850
ttgacccttg cttttgagcc ccaggaggg gaagggatca tggagagccc 900
tctaaagcct gcactctccc tgctccacag ctttcagggt gtgtttatga 950
gtgactccac ccaagcttgt agctgttctc tccatctaa cctcaggcaa 1000
gatcctggtg aaacagcatg acatggcttc tggggtggag ggtgggggtg 1050
gaggtcctgc tctagagat gaactctatc cagccctta attggcaggt 1100
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gtatgtgctg acagtactga aagctttcct cttaaactga tcccaccccc 1150
 acccaaaagt cagcagtggc actggagctg tgggctttgg ggaagtcact 1200
 tagctcotta aggtctgttt ttagaccctt ccaaggaaga ggccagaacg 1250
 gacattctct gcgatctata tacattgcct gtatccagga ggctacacac 1300
 cagcaaaccg tgaaggagaa tgggacactg ggtcatggcc tggagttgct 1350
 gataatttag gtgggataga tacttgggtct acttaagctc aatgtaacct 1400
 agagcccacc atatagtttt ataggtgctc aactttctat atcgctatta 1450
 aacttttttc tttttttcta 1470

<210> 59
 <211> 248
 <212> PRT
 <213> Homo Sapien

<400> 59
 Met Gly Pro Val Arg Leu Gly Ile Leu Leu Phe Leu Phe Leu Ala
 1 5 10 15
 Val His Glu Ala Trp Ala Gly Met Leu Lys Glu Glu Asp Asp Asp
 20 25 30
 Thr Glu Arg Leu Pro Ser Lys Cys Glu Val Cys Lys Leu Leu Ser
 35 40 45
 Thr Glu Leu Gln Ala Glu Leu Ser Arg Thr Gly Arg Ser Arg Glu
 50 55 60
 Val Leu Glu Leu Gly Gln Val Leu Asp Thr Gly Lys Arg Lys Arg
 65 70 75
 His Val Pro Tyr Ser Val Ser Glu Thr Arg Leu Glu Glu Ala Leu
 80 85 90
 Glu Asn Leu Cys Glu Arg Ile Leu Asp Tyr Ser Val His Ala Glu
 95 100 105
 Arg Lys Gly Ser Leu Arg Tyr Ala Lys Gly Gln Ser Gln Thr Met
 110 115 120
 Ala Thr Leu Lys Gly Leu Val Gln Lys Gly Val Lys Val Asp Leu
 125 130 135
 Gly Ile Pro Leu Glu Leu Trp Asp Glu Pro Ser Val Glu Val Thr
 140 145 150
 Tyr Leu Lys Lys Gln Cys Glu Thr Met Leu Glu Glu Phe Glu Asp
 155 160 165
 Ile Val Gly Asp Trp Tyr Phe His His Gln Glu Gln Pro Leu Gln
 170 175 180

Asn	Phe	Leu	Cys	Glu	Gly	His	Val	Leu	Pro	Ala	Ala	Glu	Thr	Ala
				185					190					195
Cys	Leu	Gln	Glu	Thr	Trp	Thr	Gly	Lys	Glu	Ile	Thr	Asp	Gly	Glu
				200					205					210
Glu	Lys	Thr	Glu	Gly	Glu	Glu	Glu	Gln	Glu	Glu	Glu	Glu	Glu	Glu
				215					220					225
Glu	Glu	Glu	Glu	Gly	Gly	Asp	Lys	Met	Thr	Lys	Thr	Gly	Ser	His
				230					235					240
Pro	Lys	Leu	Asp	Arg	Glu	Asp	Leu							
				245										

<210> 60
 <211> 890
 <212> DNA
 <213> Homo Sapien

<400> 60
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 ctgcctgtcc ttctccctgt gcttaaccag aggtgcccat gggttggaca 100
 atgaggetgg tcacagcagc actgttactg ggtctcatga tggtggtcac 150
 tggagacgag gatgagaaca gcccggtgtgc ccatgaggcc ctcttggacg 200
 aggacaccct cttttgccag ggccttgaag ttttctaccc agagttgggg 250
 aacattggct gcaaggttgt tcttgattgt aacaactaca gacagaagat 300
 cacctcctgg atggagccga tagtcaagtt cccggggggc gtggacggcg 350
 caacctatat cctggtgatg gtggatccag atgcccctag cagagcagaa 400
 cccagacaga gattctggag acattggctg gtaacagata tcaagggcgc 450
 cgacctgaag aaagggaaga ttcagggcca ggagttatca gcctaccagg 500
 ctccctcccc accggcacac agtggcttcc atcgctacca gttctttgtc 550
 tatcttcagg aaggaaaagt catctctctc cttcccaagg aaaacaaaac 600
 tcgaggetct tggaaaatgg acagatttct gaaccgcttc cacctgggcg 650
 aacctgaagc aagcaccagc ttcattgacc agaactacca ggactcacca 700
 accctccagg ctcccagagg aagggccagc gagcccaagc acaaaaccag 750
 gcagagatag ctgcctgcta gatagccggc tttgccatcc gggcatgtgg 800
 ccacactgct caccaccgac gatgtgggta tggaaccccc tctggataca 850
 gaacccttc ttttccaaat taacaaaaaa aatcatcaaa 890

<210> 61

<211> 223
 <212> PRT
 <213> Homo Sapien

<400> 61

Met	Gly	Trp	Thr	Met	Arg	Leu	Val	Thr	Ala	Ala	Leu	Leu	Leu	Gly	
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Leu	Met	Met	Val	Val	Thr	Gly	Asp	Glu	Asp	Glu	Asn	Ser	Pro	Cys	
			20						25					30	
Ala	His	Glu	Ala	Leu	Leu	Asp	Glu	Asp	Thr	Leu	Phe	Cys	Gln	Gly	
			35						40					45	
Leu	Glu	Val	Phe	Tyr	Pro	Glu	Leu	Gly	Asn	Ile	Gly	Cys	Lys	Val	
			50						55					60	
Val	Pro	Asp	Cys	Asn	Asn	Tyr	Arg	Gln	Lys	Ile	Thr	Ser	Trp	Met	
			65						70					75	
Glu	Pro	Ile	Val	Lys	Phe	Pro	Gly	Ala	Val	Asp	Gly	Ala	Thr	Tyr	
			80						85					90	
Ile	Leu	Val	Met	Val	Asp	Pro	Asp	Ala	Pro	Ser	Arg	Ala	Glu	Pro	
			95						100					105	
Arg	Gln	Arg	Phe	Trp	Arg	His	Trp	Leu	Val	Thr	Asp	Ile	Lys	Gly	
			110						115					120	
Ala	Asp	Leu	Lys	Lys	Gly	Lys	Ile	Gln	Gly	Gln	Glu	Leu	Ser	Ala	
			125						130					135	
Tyr	Gln	Ala	Pro	Ser	Pro	Pro	Ala	His	Ser	Gly	Phe	His	Arg	Tyr	
			140						145					150	
Gln	Phe	Phe	Val	Tyr	Leu	Gln	Glu	Gly	Lys	Val	Ile	Ser	Leu	Leu	
			155						160					165	
Pro	Lys	Glu	Asn	Lys	Thr	Arg	Gly	Ser	Trp	Lys	Met	Asp	Arg	Phe	
			170						175					180	
Leu	Asn	Arg	Phe	His	Leu	Gly	Glu	Pro	Glu	Ala	Ser	Thr	Gln	Phe	
			185						190					195	
Met	Thr	Gln	Asn	Tyr	Gln	Asp	Ser	Pro	Thr	Leu	Gln	Ala	Pro	Arg	
			200						205					210	
Gly	Arg	Ala	Ser	Glu	Pro	Lys	His	Lys	Thr	Arg	Gln	Arg			
			215						220						

<210> 62
 <211> 1321
 <212> DNA
 <213> Homo Sapien

<400> 62

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Met Arg Gly Thr Pro Gly Asp Ala Asp Gly Gly Gly Arg Ala Val
 1 5 10 15
 Tyr Gln Ser Ile Thr Val Ala Val Ile Thr Cys Lys Tyr Pro Glu
 20 25 30
 Ala Leu Glu Gln Gly Arg Gly Asp Pro Ile Tyr Leu Gly Ile Gln
 35 40 45
 Asn Pro Glu Met Cys Leu Tyr Cys Glu Lys Val Gly Glu Gln Pro
 50 55 60
 Thr Leu Gln Leu Lys Glu Gln Lys Ile Met Asp Leu Tyr Gly Gln
 65 70 75
 Pro Glu Pro Val Lys Pro Phe Leu Phe Tyr Arg Ala Lys Thr Gly
 80 85 90
 Arg Thr Ser Thr Leu Glu Ser Val Ala Phe Pro Asp Trp Phe Ile
 95 100 105
 Ala Ser Ser Lys Arg Asp Gln Pro Ile Ile Leu Thr Ser Glu Leu
 110 115 120
 Gly Lys Ser Tyr Asn Thr Ala Phe Glu Leu Asn Ile Asn Asp
 125 130

<210> 64
 <211> 999
 <212> DNA
 <213> Homo Sapien

<400> 64
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 gtgctgctgc tgctcctggc gggagccccc gccgcgcggc ccaactcccc 100
 gacctgctac tcccgcacgc gggccctgag ccaggagatc acccgcgact 150
 tcaacctcct gcaggtctcg gagccctcgg agccatgtgt gagatacctg 200
 cccaggctgt acctggacat acacaattac tgtgtgctgg acaagctgcg 250
 ggactttgtg gcctcgcccc cgtgttgga agtgggcccag gtagattcct 300
 tgaaggacaa agcacggaag ctgtacacca tcatgaactc gttctgcagg 350
 agagatttgg tattcctggt ggatgactgc aatgccttgg aatacccaat 400
 cccagtgact acggctcctgc cagatcgtca gcgctaaggg aactgagacc 450
 agagaaagaa cccaagagaa ctaaagttat gtcagctacc cagacttaat 500
 gggccagagc catgaccctc acaggtcttg tgtagttgt atctgaaact 550
 gttatgtatc totctacctt ctggaaaaca gggtggtat tcctaccag 600
 gaacctcctt tgagcataga gttagcaacc atgcttctca ttcccttgac 650

tcattgtcttg ccaggatggg tagatacaca gcatgttgat ttggtcacta 700
 aaaagaagaa aaggactaac aagcttcact tttatgaaca actattttga 750
 gaacatgcac aatagtatgt ttttattact ggtttaatgg agtaatggta 800
 cttttattct ttcttgatag aaacctgctt acatttaacc aagcttctat 850
 tatgcctttt tctaacacag actttcttca ctgtctttca tttaaaaaga 900
 aattaatgct ctaagatat atattttacg tagtgctgac aggaccact 950
 ctttcattga aaggatgata aaatcaaata aagaatctct tcacatgga 999

<210> 65
 <211> 136
 <212> PRT
 <213> Homo Sapien

<400> 65
 Met Arg Thr Pro Gly Pro Leu Pro Val Leu Leu Leu Leu Ala
 1 5 10 15
 Gly Ala Pro Ala Ala Arg Pro Thr Pro Pro Thr Cys Tyr Ser Arg
 20 25 30
 Met Arg Ala Leu Ser Gln Glu Ile Thr Arg Asp Phe Asn Leu Leu
 35 40 45
 Gln Val Ser Glu Pro Ser Glu Pro Cys Val Arg Tyr Leu Pro Arg
 50 55 60
 Leu Tyr Leu Asp Ile His Asn Tyr Cys Val Leu Asp Lys Leu Arg
 65 70 75
 Asp Phe Val Ala Ser Pro Pro Cys Trp Lys Val Ala Gln Val Asp
 80 85 90
 Ser Leu Lys Asp Lys Ala Arg Lys Leu Tyr Thr Ile Met Asn Ser
 95 100 105
 Phe Cys Arg Arg Asp Leu Val Phe Leu Leu Asp Asp Cys Asn Ala
 110 115 120
 Leu Glu Tyr Pro Ile Pro Val Thr Thr Val Leu Pro Asp Arg Gln
 125 130 135

Arg

<210> 66
 <211> 1893
 <212> DNA
 <213> Homo Sapien

<400> 66
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tctacctgga gacttgactc ccgcgcgccc caaccctgct tatcccttga 100
 ccgtcgagtg tcagagatcc tgcagccgcc cagtcccggc ccctctcccg 150
 ccccacaccc accctcctgg ctcttctgtg ttttactcct ccttttcatt 200
 cataacaaaa gctacagctc caggagccca gcgcggggct gtgacccaag 250
 ccgagcgtgg aagaatgggg ttctcggga ccggcacttg gattctggtg 300
 ttagtgctcc cgattcaagc tttcccaaaa cctggaggaa gccaagacaa 350
 atctctacat aatagagaat taagtgcaga aagacctttg aatgaacaga 400
 ttgctgaagc agaagaagac aagattaaaa aaacatatcc tccagaaaac 450
 aagccaggtc agagcaacta ttcttttggt gataacttga acctgctaaa 500
 ggcaataaca gaaaaggaaa aaattgagaa agaaagacaa tctataagaa 550
 gctccccact tgataataag ttgaatgtgg aagatgttga ttcaaccaag 600
 aatcgaaaac tgatcgatga ttatgactct actaagagtg gattggatca 650
 taaatttcaa gatgatccag atggtcttca tcaactagac gggactcctt 700
 taaccgctga agacattgtc cataaaatcg ctgccaggat ttatgaagaa 750
 aatgacagag ccgtgtttga caagattggt tctaaactac ttaatctcgg 800
 ccttatcaca gaaagccaag cacatacact ggaagatgaa gtagcagagg 850
 ttttacaaaa attaattctca aaggaagcca acaattatga ggaggatccc 900
 aataagccca caagctggac tgagaatcag gctggaaaaa taccagagaa 950
 agtgactcca atggcagcaa ttcaagatgg tcttgctaag ggagaaaacg 1000
 atgaaacagt atctaacaca ttaaccttga caaatggctt ggaaaggaga 1050
 actaaaacct acagtgaaga caactttgag gaactccaat atttcccaaa 1100
 tttctatgcg ctactgaaaa gtattgattc agaaaaagaa gcaaaagaga 1150
 aagaaacact gattactatc atgaaaacac tgattgactt tgtgaagatg 1200
 atgggtgaaat atggaacaat atctocagaa gaaggtgttt cctaccttga 1250
 aaacttggat gaaatgattg ctcttcagac caaaaacaag ctagaaaaaa 1300
 atgctactga caataaagc aagcttttcc cagcaccatc agagaagagt 1350
 catgaagaaa cagacagtac caaggaagaa gcagctaaga tggaaaagga 1400
 atatggaagc ttgaaggatt ccacaaaaga tgataactcc aaccaggag 1450
 gaaagacaga tgaacccaaa ggaaaaacag aagcctattt ggaagccatc 1500

agaaaaaata ttgaatggtt gaagaaacat gacaaaaagg gaaataaaga 1550
 agattatgac ctttcaaaga tgagagactt catcaataaa caagctgatg 1600
 cttatgtgga gaaaggcatc cttgacaagg aagaagccga ggccatcaag 1650
 cgcatttata gcagcctgta aaaatggcaa aagatccagg agtctttcaa 1700
 ctgtttcaga aaacataata tagcttaaaa cactttcta tctgtgatta 1750
 aaatTTTTTg acccaagggt tattagaaag tgctgaattt acagtagtta 1800
 accttttaca agtgggttaaa acatagcttt cttcccgtaa aaactatctg 1850
 aaagtaaagt tgtatgtaag ctgaaaaaaa aaaaaaaaaa aaa 1893

<210> 67

<211> 468

<212> PRT

<213> Homo Sapien

<400> 67

Met	Gly	Phe	Leu	Gly	Thr	Gly	Thr	Trp	Ile	Leu	Val	Leu	Val	Leu	
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Pro	Ile	Gln	Ala	Phe	Pro	Lys	Pro	Gly	Gly	Ser	Gln	Asp	Lys	Ser	
				20					25					30	
Leu	His	Asn	Arg	Glu	Leu	Ser	Ala	Glu	Arg	Pro	Leu	Asn	Glu	Gln	
				35					40					45	
Ile	Ala	Glu	Ala	Glu	Glu	Asp	Lys	Ile	Lys	Lys	Thr	Tyr	Pro	Pro	
				50					55					60	
Glu	Asn	Lys	Pro	Gly	Gln	Ser	Asn	Tyr	Ser	Phe	Val	Asp	Asn	Leu	
				65					70					75	
Asn	Leu	Leu	Lys	Ala	Ile	Thr	Glu	Lys	Glu	Lys	Ile	Glu	Lys	Glu	
				80					85					90	
Arg	Gln	Ser	Ile	Arg	Ser	Ser	Pro	Leu	Asp	Asn	Lys	Leu	Asn	Val	
				95					100					105	
Glu	Asp	Val	Asp	Ser	Thr	Lys	Asn	Arg	Lys	Leu	Ile	Asp	Asp	Tyr	
				110					115					120	
Asp	Ser	Thr	Lys	Ser	Gly	Leu	Asp	His	Lys	Phe	Gln	Asp	Asp	Pro	
				125					130					135	
Asp	Gly	Leu	His	Gln	Leu	Asp	Gly	Thr	Pro	Leu	Thr	Ala	Glu	Asp	
				140					145					150	
Ile	Val	His	Lys	Ile	Ala	Ala	Arg	Ile	Tyr	Glu	Glu	Asn	Asp	Arg	
				155					160					165	
Ala	Val	Phe	Asp	Lys	Ile	Val	Ser	Lys	Leu	Leu	Asn	Leu	Gly	Leu	
				170					175					180	

<210> 68
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 68
cgtcacagga acttcagcac cc 22

<210> 69
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 69
gtcttggtt cctccaggtt tgg 23

<210> 70
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 70
ggacagcgct cccctctacc tggagacttg actcccg 38

<210> 71
<211> 2379
<212> DNA
<213> Homo Sapien

<400> 71
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cgggccacca tggcgctgcc tccaggccca gccgccctcc ggcacacact 100
gctgctcctg ccagcccttc tgagctcagg ttggggggag ttggagccac 150
aaatagatgg tcagacctg gctgagcggg cacttcggga gaatgaacgc 200
cacgccttca cctgccgggt ggcagggggg cctggcacc ccagattggc 250
ctggtatctg gatggacagc tgcaggaggc cagcacctca agactgctga 300
gcgtgggagg ggaggccttc tctggaggca ccagcacctt cactgtcact 350
gcccacggg cccagcatga gctcaactgc tctctgcagg accccagaag 400
tgccgatca gccaacgcct ctgtcatcct taatgtgcaa ttcaagccag 450

tctgggattc actgtgagtg tcctgagctc tcgggggtga tggtttttct 1950
 ctcagcatgt ctctccacc acgggacccc agccctgacc aacccatggt 2000
 tgcctcatca gcaggaagggt gcccttcctg gaggatgggc gccacaggca 2050
 cataattcaa cagtgtggaa gcttttagggg aacatggaga aagaaggaga 2100
 ccacataccc caaagtgacc taagaacact ttaaaaagca acatgtaaat 2150
 gattggaaat taatatagta cagaatatat ttttccttg ttgagatctt 2200
 cttttgtaat gtttttcatg ttactgccta gggcggtgct gagcacacag 2250
 caagtttaat aaacttgact gaattcattt aaaaaaaaaa aaaaaaaaaa 2300
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2350
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2379

<210> 72
 <211> 322
 <212> PRT
 <213> Homo Sapien

<400> 72
 Met Ala Leu Pro Pro Gly Pro Ala Ala Leu Arg His Thr Leu Leu
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 Leu Leu Pro Ala Leu Leu Ser Ser Gly Trp Gly Glu Leu Glu Pro
 20 25 30
 Gln Ile Asp Gly Gln Thr Trp Ala Glu Arg Ala Leu Arg Glu Asn
 35 40 45
 Glu Arg His Ala Phe Thr Cys Arg Val Ala Gly Gly Pro Gly Thr
 50 55 60
 Pro Arg Leu Ala Trp Tyr Leu Asp Gly Gln Leu Gln Glu Ala Ser
 65 70 75
 Thr Ser Arg Leu Leu Ser Val Gly Gly Glu Ala Phe Ser Gly Gly
 80 85 90
 Thr Ser Thr Phe Thr Val Thr Ala His Arg Ala Gln His Glu Leu
 95 100 105
 Asn Cys Ser Leu Gln Asp Pro Arg Ser Gly Arg Ser Ala Asn Ala
 110 115 120
 Ser Val Ile Leu Asn Val Gln Phe Lys Pro Glu Ile Ala Gln Val
 125 130 135
 Gly Ala Lys Tyr Gln Glu Ala Gln Gly Pro Gly Leu Leu Val Val
 140 145 150
 Leu Phe Ala Leu Val Arg Ala Asn Pro Pro Ala Asn Val Thr Trp
 155 160 165

Ile	Asp	Gln	Asp	Gly	Pro	Val	Thr	Val	Asn	Thr	Ser	Asp	Phe	Leu	
				170					175					180	
Val	Leu	Asp	Ala	Gln	Asn	Tyr	Pro	Trp	Leu	Thr	Asn	His	Thr	Val	
				185					190					195	
Gln	Leu	Gln	Leu	Arg	Ser	Leu	Ala	His	Asn	Leu	Ser	Val	Val	Ala	
				200					205					210	
Thr	Asn	Asp	Val	Gly	Val	Thr	Ser	Ala	Ser	Leu	Pro	Ala	Pro	Gly	
				215					220					225	
Pro	Ser	Arg	His	Pro	Ser	Leu	Ile	Ser	Ser	Asp	Ser	Asn	Asn	Leu	
				230					235					240	
Lys	Leu	Asn	Asn	Val	Arg	Leu	Pro	Arg	Glu	Asn	Met	Ser	Leu	Pro	
				245					250					255	
Ser	Asn	Leu	Gln	Leu	Asn	Asp	Leu	Thr	Pro	Asp	Ser	Arg	Ala	Val	
				260					265					270	
Lys	Pro	Ala	Asp	Arg	Gln	Met	Ala	Gln	Asn	Asn	Ser	Arg	Pro	Glu	
				275					280					285	
Leu	Leu	Asp	Pro	Glu	Pro	Gly	Gly	Leu	Leu	Thr	Ser	Gln	Gly	Phe	
				290					295					300	
Ile	Arg	Leu	Pro	Val	Leu	Gly	Tyr	Ile	Tyr	Arg	Val	Ser	Ser	Val	
				305					310					315	
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				320											

<210> 73
 <211> 843
 <212> DNA
 <213> Homo Sapien

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 tgctgctggc gctgttagtg ccgggcggtg gtgccgcaa gaccggtgcg 150
 gagctcgtga cctgcgggtc ggtgctgaag ctgctcaata cgcaccaccg 200
 cgtgcggtc cactgcgacg acatcaaata cggatccggc agcggccagc 250
 aatcggtgac cggcgtagag gcgtcggacg acgccaatag ctactggcgg 300
 atccgcggtg gctcggaggg cgggtgcccc cgcggtccc cggcgcgtg 350
 cgggcaggcg gtgaggctca cgcattgtgt tacgggcaag aacctgcaca 400
 cgcaccactt cccgtcgccg ctgtccaaca accaggaggt gagtgccttt 450
 ggggaagacg gcgaggcgga cgacctggac ctatggacag tgcgtgctc 500

Thr His Asn Thr Trp Lys Ala Met Glu Gly Ile Phe Ile Lys Pro
 200 205 210

Ser Val Glu Pro Ser Ala Gly His Asp Glu Leu
 215 220

<210> 75
 <211> 1049
 <212> DNA
 <213> Homo Sapien

<400> 75
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 ctgtgggctc accacctcta aggaggagca ctgactgaag acagaaaaat 200
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 agagccagat cgtcatcatg tctgcattgt ggctgctgct gggcctcctt 350
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 ccaaagcctg gacaccctg gagcatcttg tgggattgga agacgtcacg 450
 gcctgaacta ctgtggagtt cgtgcttctg aaaggctggc tgaaatagac 500
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 agtgggggtg ctggctatgt ccgaagcagc caggacctga gctgtgactt 850
 ctgcaatgat gtccttgac gagccaagta cctcaagaga catggcttct 900
 aacatctcag atgaaacca agaccatgat cacatatgca gcctcaaagt 950
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 gacctaaaag tcattaaaat aacatgaatc ccattaaaaa aaaaaaaaaa 1049

<210> 76
 <211> 194
 <212> PRT
 <213> Homo Sapien

<400> 76

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Leu Asp Thr Pro Gly Ala Ser Cys Gly Ile Gly Arg Arg His Gly
35 40 45
Leu Asn Tyr Cys Gly Val Arg Ala Ser Glu Arg Leu Ala Glu Ile
50 55 60
Asp Met Pro Tyr Leu Leu Lys Tyr Gln Pro Met Met Gln Thr Ile
65 70 75
Gly Gln Lys Tyr Cys Met Asp Pro Ala Val Ile Ala Gly Val Leu
80 85 90
Ser Arg Lys Ser Pro Gly Asp Lys Ile Leu Val Asn Met Gly Asp
95 100 105
Arg Thr Ser Met Val Gln Asp Pro Gly Ser Gln Ala Pro Thr Ser
110 115 120
Trp Ile Ser Glu Ser Gln Val Ser Gln Thr Thr Glu Val Leu Thr
125 130 135
Thr Arg Ile Lys Glu Ile Gln Arg Arg Phe Pro Thr Trp Thr Pro
140 145 150
Asp Gln Tyr Leu Arg Gly Gly Leu Cys Ala Tyr Ser Gly Gly Ala
155 160 165
Gly Tyr Val Arg Ser Ser Gln Asp Leu Ser Cys Asp Phe Cys Asn
170 175 180
Asp Val Leu Ala Arg Ala Lys Tyr Leu Lys Arg His Gly Phe
185 190

<210> 77

<211> 899

<212> DNA

<213> Homo Sapien

<400> 77

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ctgtgtggac cggcagtcct gccgcctgga gccaggacag caatgcctga 200
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<211> 1977
<212> DNA
<213> Homo Sapien

<400> 79

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tagctgcgca gcgtcgcgcg cgctaccgca cccaggttcg gcccgtaggc 150
gtctggcagc ccggcgccat ctccatcgag cgccatggcc gcagcctgcg 200
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gcgggatgta aaagctctta cctccacta tgaccgctat accacctccc 350
gcaggctgga tcccatccca cagttgaaat gtgttgaggg cacagctggg 400
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tgggtatgat gtacagtggg aatgtaagac ggacttagat attgcataca 500
aatitggaaa aactgtggtg agctgtgaag gctatgagtc ctctgaagac 550
cagtatgtac taagaggttc ttgtggcttg gagtataatt tagattatac 600
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Leu	Asp	Tyr	Thr	Glu	Leu	Gly	Leu	Gln	Lys	Leu	Lys	Glu	Ser	Gly	140	145	150
Lys	Gln	His	Gly	Phe	Ala	Ser	Phe	Ser	Asp	Tyr	Tyr	Tyr	Lys	Trp	155	160	165
Ser	Ser	Ala	Asp	Ser	Cys	Asn	Met	Ser	Gly	Leu	Ile	Thr	Ile	Val	170	175	180
Val	Leu	Leu	Gly	Ile	Ala	Phe	Val	Val	Tyr	Lys	Leu	Phe	Leu	Ser	185	190	195
Asp	Gly	Gln	Tyr	Ser	Pro	Pro	Pro	Tyr	Ser	Glu	Tyr	Pro	Pro	Phe	200	205	210
Ser	His	Arg	Tyr	Gln	Arg	Phe	Thr	Asn	Ser	Ala	Gly	Pro	Pro	Pro	215	220	225
Pro	Gly	Phe	Lys	Ser	Glu	Phe	Thr	Gly	Pro	Gln	Asn	Thr	Gly	His	230	235	240
Gly	Ala	Thr	Ser	Gly	Phe	Gly	Ser	Ala	Phe	Thr	Gly	Gln	Gln	Gly	245	250	255
Tyr	Glu	Asn	Ser	Gly	Pro	Gly	Phe	Trp	Thr	Gly	Leu	Gly	Thr	Gly	260	265	270
Gly	Ile	Leu	Gly	Tyr	Leu	Phe	Gly	Ser	Asn	Arg	Ala	Ala	Thr	Pro	275	280	285
Phe	Ser	Asp	Ser	Trp	Tyr	Tyr	Pro	Ser	Tyr	Pro	Pro	Ser	Tyr	Pro	290	295	300
Gly	Thr	Trp	Asn	Arg	Ala	Tyr	Ser	Pro	Leu	His	Gly	Gly	Ser	Gly	305	310	315
Ser	Tyr	Ser	Val	Cys	Ser	Asn	Ser	Asp	Thr	Lys	Thr	Arg	Thr	Ala	320	325	330
Ser	Gly	Tyr	Gly	Gly	Thr	Arg	Arg	Arg							335		